

TWO NEW CHINESE SPECIES OF *TENOMERGA* NEBOISS (COLEOPTERA:  
CUPEDIDAE), WITH A WORLD CATALOG OF THE GENUS

SI-QIN GE AND XING-KE YANG

Institute of Zoology, Chinese Academy of Sciences, 25 Bei SiHuanXiLu, Haidian, Beijing, 100080, China (e-mail: gesq@ioz.ac.cn)

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*Abstract.*—*Tenomerga gaolingziensis*, new species, and *T. tianmuensis*, new species, are described from China. The distinctive characters of the new species in relation to other species of the genus are discussed. Habitus photographs and illustrations of the male genitalia, head and pronotum, and elytra are included. Also a world catalog of the genus *Tenomerga* Neboiss is given.

*Key Words:* China, *Tenomerga*, Cupedidae, Coleoptera, new species, catalog

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The genus *Tenomerga*, mainly distributed in the western Pacific, eastern Asian, southern African, and northern American regions, was erected by Neboiss in 1984. Prior to 1984, species now assigned to *Tenomerga* were attributed to the genus *Cupes* (*sensu lato*). Crowson (1962) divided *Cupes* into three species groups: *capitatus*, *lugubris* and *clathratus*. In 1984, Neboiss described males of 21 species of *Cupes*. Combined with external morphological structures and male genitalic characters, he raised the species groups to generic rank. Species of *Tenomerga* were these hitherto assigned to the *clathratus* species group. In the present study, we describe two new species using characters of the male genitalia and external morphological structures. The type specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing. We also give a catalog of all known species of *Tenomerga*.

Genus *Tenomerga* Neboiss

*Tenomerga* Neboiss 1984: 448.

Type species: *Cupes mucida* Chevrolat 1829 (original designation).

Diagnosis.—Head wider than long, an-

gles rounded, bearing two pairs of conical tubercles, one pair above base of antenna, the other posteriorly above eyes, a pair of elevations behind second pair of tubercles, similar to elongate elevations at middle of head; without antennal grooves; antenna long, filiform, usually laterally flattened, about three-quarters length of body, not covered with obvious scales; gula short and wide, angular, widest anteriorly, reaching posterior ridge of head, gradually transversely depressed anteriorly, anterior margin elevated. Pronotum quadrate, wider than long, anterior angles more or less acute; prosternum with moderately deep tarsal grooves along lateral and anterior margins, separated anteromesally by elevated ridge, anterior margin narrow. Elytra conjointly slightly wider than prothorax, dorsal surface flattened, each usually bearing nine rows of punctures, row 10 present only in basal quarter; scales present on most intervals, punctures distinct, outlines not obscured by scales; elytral apices not extended to acute point. Hind wing with costa, subcosta and radius united at stigma; radio-medial cross vein at or proximad divergence of radial sector; no apical extension of me-

dia beyond oblongum cell. Male abdominal tergite IX with long, bifurcate process; dorsal plate only slightly sclerotized, about half length of a paramere.

Distribution.—Worldwide except the Australian Region and Europe.

#### DESCRIPTIONS OF NEW SPECIES

##### *Tenomerga gaolingziensis* Ge and Yang, new species

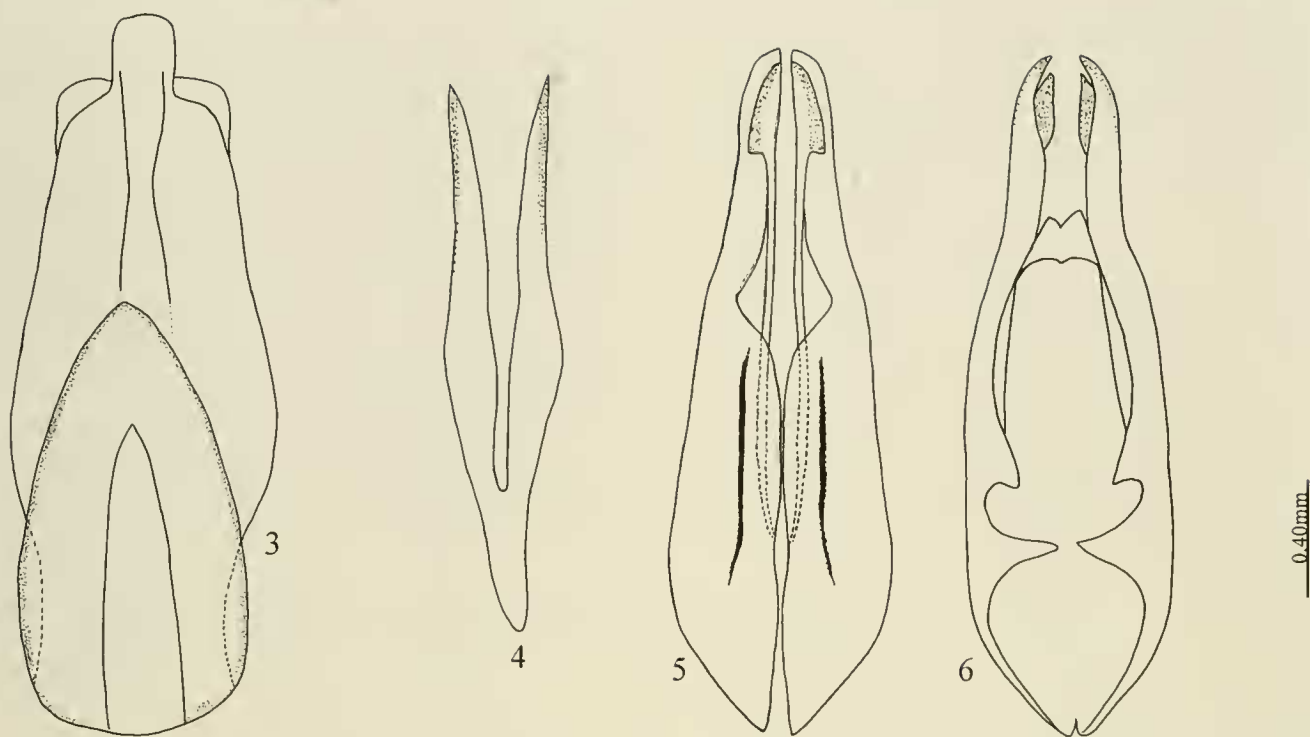
(Figs. 1, 3–6, 11, 13)

Description.—*Length*: 10.8–11.0 mm; *width*: 2.1–2.2 mm. *Color*: Brown with sections of dark brown scales on intervals (Fig. 1). *Head*: Projecting and moderately elongate (Fig. 11); mandibles strong, each with two teeth and dense, long setae; Antenna moderately elongate, longer than head and prothorax combined; ratio of antennomere lengths: 0.32: 0.08: 0.41: 0.45: 0.64: 0.56: 0.56: 0.56: 0.56: 0.73; ratio of antennomere widths: 0.32: 0.25: 0.29: 0.32: 0.32: 0.32: 0.29: 0.26: 0.24: 0.23: 0.21; antennomere length/width ratios: 1.0: 0.32: 1.39: 1.38: 2.0: 1.75: 1.96: 2.15: 2.33: 2.43: 3.64.

*Thorax*: Prothorax about 0.7 times as long as wide ( $PL/PW = 1.12/1.6$ ) (Fig. 11), sides parallel; anterior angles forward-pointing but not sharp; hind margin raised forward to form a ridge; impression moderately deep. Scutellum relatively small, more or less trapezoid. Elytron 3.17 times as long as wide ( $EL/EW = 6.58/2.08$ ) and 5.87 times as long as pronotum ( $EL/PL = 6.58/1.12$ ), 1.3 times as wide as pronotum ( $EW/PW = 2.08/1.6$ ), with raised, longitudinal ridges marked with alternating lines of dark brown scales, longitudinal stripes of grey sales and three longitudinal ridges; first ridge along lateral margin of elytron entire, second roughly parallel to first and joining third ridge, third ridge merging with first close to apex, both slightly prolonged apically (Fig. 13). Legs moderately long and slender, ratio of profemur: protibia: protarsomeres = 0.96: 1.04: 0.72; profemur 2.47 times as long as wide; protibia 6.19 times as long as wide; ratio of mesofemur:



Figs. 1–2. Habitus. 1, *Tenomerga gaolingziensis* (top). 2, *T. tianmuensis* (bottom).



Figs. 3–6. *Tenomerga gaolingziensis*, male genitalia. 3, Abdominal segment IX, ventral. 4, Bifurcate process. 5, Aedeagus, ventral. 6, Aedeagus, dorsal.

mesotibia: mesotarsomeres = 0.8: 1.14: 0.84; mesofemur 3.23 times as long as wide; mesotibia 4.45 times as long as wide; ratio of metafemur: metatibia: metatarsomeres = 0.92: 1.04: 1.12; metafemur 5.3 times as long as wide; metatibia 6.5 times as long as wide.

**Abdomen:** Male genitalia with median section of tergite IX extending beyond lateral lobe apically. Aedeagus moderately stout, parameres with apical hooks moderately robust, curved apically; inner dorsal lateral ridges without acute distal angle; ventro-marginal spines arising near basal opening, not exceeding length of dorsal plate; lateral margins of mesal lobe widened near base (Figs. 3–6).

**Material examined.**—Holotype: ♂, Heilongjiang: Gaolingzi (44.8°N, 128.8°E), 2 July 1939, collector unknown. Paratypes: 2 ♂, same data as holotype.

**Diagnosis.**—The new species is quite similar to *Tenomerga anguliscutis* (Kolebe) differing primarily in aedeagal morphology. In *T. anguliscutis*, tergite IX is extended beyond the lateral lobe and widened; the aedeagus is moderately stout, the parameres have the apical hooks bipointed apically,

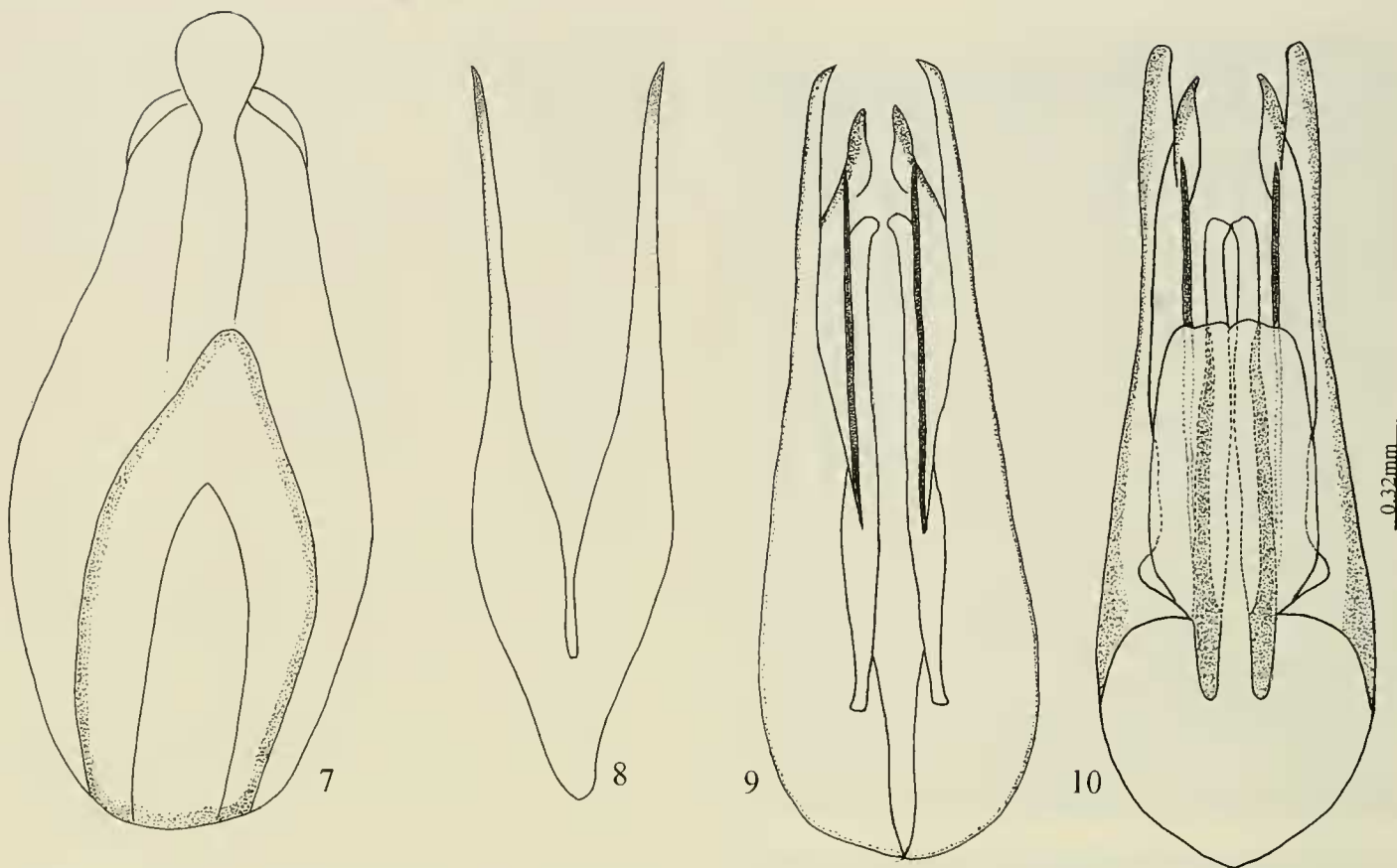
the inner dorsolateral ridge has an acute distal angle, the ventro-marginal spines are slender, arising at about basal quarter and extending nearly to the tip of the apical hooks, the mesal lobe is tapered distally, and the apex notched mesally. The character separating these two species from the other species is the apical bifid hook of the aedeagus.

**Etymology.**—Latinized form of Gaolingzi, the county in which the species was first collected.

***Tenomerga tianmuensis* Ge and Yang,  
new species**

(Figs. 2, 7–10, 12, 14)

**Description.**—*Length:* 12.3–12.5 mm; *width:* 2.8–2.9 mm. *Color:* Yellowish brown with sections of pale white scales on intervals (Fig. 2). *Head:* With an impressed median line; projecting and moderately elongate (Fig. 12); mandibles strong, with two teeth; clypeus and mandibles with dense long setae; antenna moderately elongate, longer than head and prothorax combined; ratio of antennomere lengths: 0.34: 0.08: 0.48: 0.64: 0.65: 0.72: 0.79: 0.78: 0.77: 0.77: 0.98; ratio of antennomere



Figs. 7–10. *Tenomerga tianmuensis*, male genitalia. 7, Abdominal segment IX, ventral. 8, Bifurcate process. 9, Aedeagus, dorsal. 10, Aedeagus, ventral.

widths: 0.24: 0.18: 0.25: 0.24: 0.24: 0.27: 0.28: 0.23: 0.24: 0.24: 0.12; antennomere length/width ratios: 1.42: 0.47: 1.95: 2.67: 2.75: 2.66: 2.91: 3.38: 3.27: 3.25: 8.27.

**Thorax:** Prothorax (Fig. 12) about 0.8 times as long as wide (PL/PW = 1.12/1.4), sides parallel; anterior angles pointing forward and sharp; hind margin raised forward to form a ridge; impression moderately deep; scutellum relatively small, more or less cordiform; elytron about 3.24 times as long as wide (EL/EW = 6.73/2.08) and 6.01 times as long as pronotum (EL/PL = 6.73/1.12), 1.49 times as wide as pronotum (EW/PW = 2.08/1.4), with longitudinal stripes of grey scales and three longitudinal ridges; first ridge along lateral margin entire, prolonged to suture; second ridge subparallel to first, its apical end joining with the third ridge; third ridge itself joining first ridge close to apex of elytra (Fig. 14); legs moderately long and slender, ratio of profemur: protibia: protarsomeres = 1.04: 1.03: 0.72; profemur 2.36 as long as wide; protibia 4.3 times as long as wide; ratio of

mesofemur: mesotibia: mesotarsomeres = 0.8: 1.04: 0.8; mesofemur 1.11 times as long as wide; mesotibia 4.19 times as long as wide; ratio of metafemur: metatibia: metatarsomeres = 0.72: 0.98: 1.12; metafemur 2.19 times as long as wide; metatibia 6.13 times as long as wide.

**Abdomen:** Male genitalia with median section of tergite IX extended beyond lateral lobe and widened, rounded apically; aedeagus moderately stout, parameres with apical hooks bifid; ventral marginal spines slender, arising at about basal middle to apex of hooks; mesal lobe bifurcated distally; lateral margins widened basally (Figs. 7–10).

**Material examined.**—Holotype: ♂, Zhejiang: Tianmu Shan (34.4°N, 119.5°E), 23 August 1936, coll. O. Piel. Paratypes: 2 ♂ and 1 ♀, same data as holotype; 2 ♂, 1 ♀, Zhejiang: Tianmu Shan (34.4°N, 119.5°E), 22 July 1937, collector unknown.

**Diagnosis.**—This new species is quite similar to *T. mucida* (Chevrolat), differing primarily in aedeagal morphology. In *T.*

*mucida* tergite IX is widened distally, extended slightly beyond the lateral lobe, less than in *T. anguliscutis*; the inner dorsolateral ridge has an acute distal angle; the ventro-marginal spines are slender, arising at about the basal quarter and extending nearly to the tip of the apical hooks, the mesal lobe is tapered distally, with the apex notched mesally. The characters separating these two species from the other species are the slender, laterally compressed antennal segments and the pronotal median ridge not acute.

Etymology.—Latinized form of Tianmu the county in which the species was first collected.

WORLD CATALOG OF THE GENUS  
*TENOMERGA* NEBOISS

*Tenomerga anguliscutis* (Kolbe)

- Cupes anguliscutis* Kolbe 1886: 200.  
*Cupes formosanus* Tamauki 1928: 251, fig. 4; Atkins 1963: 151, figs. 12.  
*Tenomerga anguliscutis*: Neboiss 1984: 451, figs. 15–18, 77, 113.

Distribution.—China (Heilongjiang, Jilin, Liaoning, Nanjing, Shanghai, Zhejiang, Taiwan); Vietnam (Tonkin); Laos; Korea.

*Tenomerga cinerea* (Say)

- Cupes cinerea* Say 1831: 6; Say 1835: 167.  
*Cupes concolor* Westwood 1835: 440; Atkins 1963: 150; Atkins 1979: 2 (includes information on synonymies and references); Vulcano and Pereira 1975: 42, fig. 5.  
*Cupes trilineata* Melsheimer 1845: 310.  
*Cupes oculatus* Casey 1897: 638.  
*Tenomerga concolor*: Neboiss 1984: 449, figs. 5–7, 74.  
*Tenomerga cinearea*: Bousquet 1993: 9.

Distribution.—Eastern USA and Canada.

*Tenomerga favella* Neboiss

- Tenomerga favella* Neboiss 1984: 456, figs. 26–28, 82, 115.

Distribution.—Indonesia: kalimantan.

*Tenomerga gaolingziensis* Ge and Yang, new species

Distribution.—China.

*Tenomerga kapnodes* Neboiss

- Tenomerga kapnodes* Neboiss 1984: 454, figs. 23–25, 80, 116.

Distribution.—Papua New Guinea.

*Tenomerga kurasawai* Miyatake

- Tenomerga kurasawai* Miyatake 1986: 11.

Distribution.—Japan.

*Tenomerga japonica* (Tamanuki)

- Cupes japonica* Tamanuki 1928: 252; Atkins 1963: 151, fig. 14.  
*Tenomerga japonica*: Neboiss 1984: 449, figs. 8–10, 75.

Distribution.—Japan. Record by Vulcano and Pereira 1975: 64 could not be confirmed.

*Tenomerga leucophaea* (Newman)

- Cupes leucophaea* Newman 1839: 304; Atkins 1963: 150, 152, Fig. 9.  
*Cupes capensis* Kolbe 1897: 354.  
*Tenomerga leucophaea*: Neboiss 1984: 448.

Distribution.—Southern Africa.

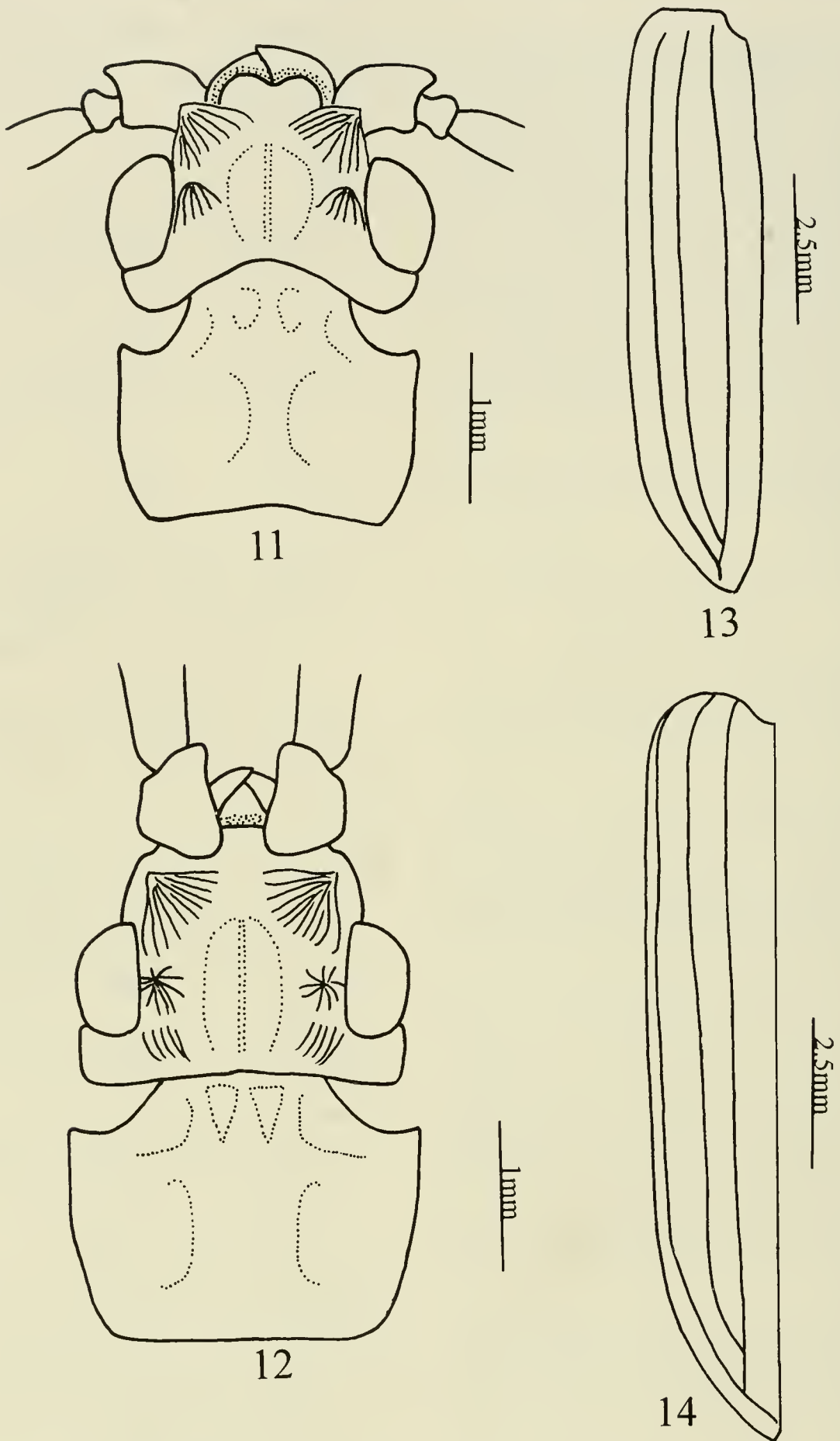
*Tenomerga moultoni* (Gestro)

- Cupes moultoni* Gestro 1910: 454; Atkins 1963: 153.  
*Tenomerga moultoni*: Neboiss, 1984: 456, figs. 81, 114.

Distribution.—Malaysia (Sarawak).

*Tenomerga mucida* (Chevrolat)

- Cupes mucida* Chevrolat 1829: 58; Atkins 1963: 154.  
*Cupes clathratus* Solsky 1871: 370; Atkins 1963: 148.  
*Cupes ocularis* Pascoe 1872: 319.  
*Cupes clathratus* var. *fuscus* Tamanuki 1928: 251.  
*Tenomerga mucida*: Neboiss 1984:



Figs. 11-14. 11-12, Outline of head and pronotum, dorsal view. 13-14, Dorsal aspect of left elytron. 11, 13, *Tenomerga gaolingziensis*. 12, 14, *T. tianmuensis*.

453, figs. 19–22, 78, 95, 96, 100–102.

Distribution.—Philippines, eastern Asia, Japan, Hawaii. Record of Caroline Islands by Vulcano and Pereira (1975) not confirmed.

*Tenomerga sibyllae* (Klapperich)

*Cupes sibyllae* Klapperich 1950: 83, fig. 1; Atkins 1963: 155.

*Tenomerga sibyllae*: Neboiss 1984: 454, figs. 79, 103–105.

Distribution.—Southeastern China.

*Tenomerga tianmuensis* Ge and Yang, new species

Distribution.—Eastern China.

*Tenomerga trabecula* Neboiss

*Tenomerga trabecula* Neboiss 1984: 450, figs. 11–14, 76, 98, 112.

Distribution.—Eastern China and Taiwan.

*Tenomerga yamato* Miyatake

*Tenomerga yamato* Miyatake 1985: 24.

Distribution.—Japan.

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